

IN THE CLAIMS:

Please find below a listing of all of the pending claims. The statuses of the claims are set forth in parentheses.

1. (Currently amended) A method for cooling a room configured to house a plurality of computer systems, said method comprising:

providing a heat exchanger unit configured to receive air from said room and to deliver air to said room;

supplying said heat exchanger unit with cooling fluid from an air conditioning unit having a refrigeration loop including a variable capacity compressor and a refrigerant;

cooling said received air through heat exchange with the cooling fluid in the heat exchanger unit;

sensing temperatures at one or more locations in said room; and

~~controlling at least one of the temperature of said cooling fluid and said air delivery to said room in response to said sensed temperatures at said one or more locations~~

detecting a level of operation of the heat exchanger unit;

communicating the level of operation of the heat exchanger unit to a controller of the air conditioning unit; and

controlling the capacity of the variable capacity compressor to vary the temperature of said cooling fluid in response to the communicated level of operation of the heat exchanger unit.

2. (Currently amended) The method according to claim 1, wherein said step of controlling the capacity of the variable capacity compressor comprises varying the capacity of the variable capacity compressor to decrease the temperature of the cooling fluid in response to the heat exchanger unit operating at a relatively high level~~at least one of a temperature of said cooling fluid and said air delivery to said room comprises varying an output of said air conditioning unit to control the temperature of said cooling fluid.~~

3. (Currently amended) The method according to claim ~~[[2]]~~1, wherein said step of ~~controlling the temperature of said cooling fluid comprises controlling the temperature of said refrigerant through operation of said~~ variable capacity compressor comprises varying the capacity of the variable capacity compressor to increase the temperature of the cooling fluid in response to the heat exchanger unit operating at a relatively low level.

4. (Canceled).

5. (Currently amended) The method according to claim 1, further comprising:
sensing temperatures at one or more locations in said room;
controlling at least one of the temperature of said cooling fluid and said air delivery to said room in response to said sensed temperatures at said one or more locations; and
determining whether the sensed temperatures at one or more locations in said room are within a predetermined range.

6-8. (Canceled).

9. (Original) The method according to claim 5, further comprising:
varying the cooling fluid temperature in response to the sensed temperatures at one or more locations in said room being outside of said predetermined range.

10. (Original) The method according to claim 9, further comprising:
increasing said cooling fluid temperature in response to a sum of the sensed temperatures at one or more locations being below said predetermined range.

11. (Original) The method according to claim 9, further comprising:
decreasing said cooling fluid temperature in response to a sum of the sensed temperatures at one or more locations being above said predetermined range.

12-17. (Canceled).

18. (Currently amended) A system for cooling a room containing one or more computer systems, said system comprising:

a heat exchanger unit configured to receive cooling fluid through a cooling fluid line from an air conditioning unit and to receive air through an opening in the heat exchanger unit, wherein said air is cooled through heat transfer with said cooling fluid in the heat exchanger unit;

said air conditioning unit having [[a]] at least one of a variable capacity compressor, a heat exchanger, and a chiller;

said heat exchanger unit having at least one fan configured to cause air to flow into and flow out of the heat exchanger unit;

a heat exchanger controller operable to control a supply of said cooling fluid to said heat exchanger unit, ~~and operable to control the speed of the at least one fan, and to detect a~~
level of operation of the heat exchanger unit; [[and]]

said heat exchanger unit being configured to communicate the level of operation of the heat exchanger unit to an air conditioning unit controller, wherein the air conditioning unit controller is configured to operate the air conditioning unit to vary the temperature of the cooling fluid in response to the communicated level of operation of the heat exchanger unit

~~an air conditioning unit controller configured to operate the air conditioning unit to vary the temperature of said cooling fluid.~~

19. (Original) The system according to claim 18, further comprising one or more temperature sensors, wherein said heat exchanger controller is configured to receive environmental condition information from said one or more temperature sensors.

20-23. (Canceled).

24. (Currently amended) The system according to claim 18, wherein said cooling device controller is configured to control the air conditioning unit to decrease the temperature of the cooling fluid in response to the heat exchanger unit operating at a relatively high level
~~said at least one of said variable capacity compressor, said heat exchanger, and said chiller, to thereby control the temperature of the cooling fluid.~~

25. (Currently amended) The system according to claim ~~[[24]]~~18, wherein said cooling device controller is configured to control the air conditioning unit to increase the temperature of the cooling fluid in response to the heat exchanger unit operating at a relatively low level ~~communicate with said heat exchanger controller.~~

26. (Canceled).

27. (Currently amended) The system according to claim ~~[[25]]~~18, wherein said heat exchanger unit is configured to communicate ~~communication comprises~~ at least one of temperature measurements and heat exchanger unit operations.

28 and 29. (Canceled).

30. (Currently amended) A system for cooling computer systems housed in one or more racks, said racks being maintained in a room, said system comprising:

means for receiving air from the room;

means for cooling the received air in the means for receiving air, said means for cooling including means for receiving cooling fluid from an air conditioning unit having a variable capacity compressor;

means for delivering cooled air to said computer systems;

means for detecting a level of operation of the means for delivering cooled air;

means for communicating the level of operation of the means for delivering cooled air to a means for controlling the air conditioning unit;

~~means for measuring temperatures at one or more locations in said room;~~

~~means for controlling delivery of said cooled air in response to the temperature measurements; and~~

means for controlling the air conditioning unit includes means for controlling the temperature of said cooling fluid based upon the communicated level of operation of the means for delivering cooled air.

31. (Original) The system according to claim 30, further comprising:

means for controlling delivery of cooling fluid through said cooling means.

32. (Canceled).

33. (Previously Presented) The method according to claim 5, wherein the step of controlling at least one of the temperature of said cooling fluid and said air delivery further comprises manipulating at least one of the temperature of said cooling fluid and said air delivery in response to a determination of the sensed temperatures at one or more locations in said room being outside the predetermined range.

34. (Previously Presented) The method according to claim 5, further comprising:
accessing an algorithm in a memory to determine manners of controlling at least one of the temperature of said cooling fluid and said air delivery to said room in response to a determination of the sensed temperatures at one or more locations in said room being outside the predetermined range.

35. (Previously Presented) The system according to claim 30, wherein the means for cooling air comprises means for receiving air from the room.

36. (Previously Presented) The system according to claim 30, wherein the means for controlling the temperature of said cooling fluid comprises means for varying the capacity of the variable capacity compressor.

37. (Canceled).

38. (Currently amended) The system according to claim 30, further comprising:
means for measuring temperatures at one or more locations in said room;
means for controlling delivery of said cooled air in response to the temperature
measurements; and
means for determining whether the sensed temperatures at one or more locations in said room are within a predetermined range.

39. (Currently amended) A computer readable storage medium on which is embedded one or more computer programs, said one or more computer programs implementing a method for cooling a room configured to house a plurality of computer systems, said one or more computer programs comprising a set of instructions for:
supplying a heat exchanger unit configured to receive air from the room and to deliver air to the room with cooling fluid from an air conditioning unit having a refrigeration loop including a variable capacity compressor and a refrigerant;
cooling said received air through heat exchange with the cooling fluid in the heat exchanger unit;
detecting a level of operation of the heat exchanger unit;
communicating the level of operation of the heat exchanger unit to a controller of the
air conditioning unit; and

controlling the capacity of the variable capacity compressor to vary the temperature of said cooling fluid in response to the communicated level of operation of the heat exchanger unit.

~~sensing temperatures at one or more locations in said room; and
controlling at least one of the temperature of said cooling fluid and said air delivery to said room in response to said sensed temperatures at said one or more locations.~~

40. (Currently amended) The computer readable storage medium according to claim 39, said one or more computer programs further comprising a set of instructions for:

varying the capacity of the variable capacity compressor to decrease the temperature of the cooling fluid in response to the heat exchanger unit operating at a relatively high level
~~controlling the temperature of said refrigerant through operation of said variable capacity compressor.~~

41. (New) The computer readable storage medium according to claim 39, said one or more computer programs further comprising a set of instructions for:

varying the capacity of the variable capacity compressor to increase the temperature of the cooling fluid in response to the heat exchanger unit operating at a relatively low level.

42. (New) The computer readable storage medium according to claim 39, said one or more computer programs further comprising a set of instructions for:

sensing temperatures at one or more locations in said room; and
controlling at least one of the temperature of said cooling fluid and said air delivery to said room in response to said sensed temperatures at said one or more locations.